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REVISED CHECKLIST AND DISTRIBUTIONS OF LAND MAMMALS OF EL SALVADOR

JAMES G. OWEN AND LUIS GIRÓN

ABSTRACT

We present a revised checklist of the 128 land mammals of El Salvador. Substantial taxonomic and nomenclatural change has been made to the previous checklist. Eight new bats are presented for the country. Geographical maps of species distributions are included.

Key words: El Salvador, species checklist, distribution maps

RESUMEN

Se presenta una nómina revisada de los mamíferos terrestres de El Salvador, que incluye cambios sustanciales en la taxonomía y nomenclatura de la nómina anterior. Se presentan ocho especies nuevas para el país. Adicionalmente se incluyen mapas de la distribución geográfica para cada especie.

Palabras clave: El Salvador, especies de lista de verificación, mapas de distribución

INTRODUCTION AND METHODS

Several discoveries and taxonomic changes have occurred since the publication of an *Annotated Checklist of Land Mammals of El Salvador* (Owen et al. 1991). Eight species of bats have been found that are new for the country. Several taxonomic revisions, relevant to the mammals of El Salvador, were proposed in *Mammal Species of the World* (Wilson and Reeder 2005). *Peromyscus gymnotis* (Owen et al. 1990) has been removed from the checklist. Salvadoran specimens of this species should be referred to *P. mexicanus* (Engstrom, pers. comm.; Rodgers and Engstrom 1992). *Neotoma isthmica/ferruginea* (the question of *isthmica* or *ferruginea* in El Salvador is undecided [Edwards and

Bradley 2002]) was found to have been inadvertently omitted by Owen et al. (1991). Engstrom et al. (1994) reported *Marmosa robinsoni* from El Salvador. We have examined Engstrom's specimen and refer it to a large *Marmosa mexicana*. As a consequence, these changes have made Owen et al. (1991) untenable for the study of Salvadoran mammals.

In this paper, we address the above issues following Wilson and Reeder (2005) as a taxonomic reference. Our checklist is based on records of 18,788 specimens that were compiled from the examination of museum material and from mammals that were observed or

captured in the field, identified with surety, and then released unharmed. These data depict 128 native species to El Salvador.

As a compliment to the checklist, we present digital range maps for each species. Coordinates for localities were obtained by using a GPS (Garmin GPS 12 XL) instrument in many cases; coordinates for localities without GPS data were estimated from descriptions written in field notes or on specimen tags.

A dot was plotted using the coordinates of the collection localities for each species and superimposed on a map of El Salvador (Appendix). Maps are presented in the same order as species in the checklist and are numbered consecutively corresponding to numbers in the list. Range maps for mammals in El Salvador have not previously been published and should prove useful to the increasing number of Salvadoran students of mammalogy.

RESULTS

Species New For the Country Since the Last Checklist.—Since publication of the last checklist (Owen et al. 1991), six species of bats new for El Salvador have been collected and prepared as museum specimens. These are: *Carollia sowelli*, *Eptesicus furinalis*, and *Lasurius ega* (Owen 2005); *Myotis elegans* (Engstrom et al. 1994); *Bauerus dubiaquercus* (Girón et al. 2010); and *Noctilio albiventris* (Owen et al. 1993). Two additional species of bats, *Cynomops mexicanus* and *Molossus sinaloae*, have been detected but not collected. Both were registered by an Anabat bat detector (Anabat II bat detector (year 2000), with a Zero Crossings Analysis Interface Module (ZCAIM) Type 6) at three geographically widely separated and

independent localities; additionally, *M. sinaloae* was caught in a mist net at one locality. This mist net specimen was photographed and released because we did not have a permit to collect it.

Species of Suspected Occurrence in El Salvador.—There are unconfirmed sightings of *Galictis vittata* from southwestern El Salvador in the Department of Ahuachapán. Also, a specimen that appeared to be *Peromyscus guatemalensis* was caught and released on Cerro Verde, Department of La Libertad. This species may occur on Cerro Verde and the surrounding mountains. *Oryzomys couesi* may occur in northern El Salvador (Hanson et al. 2010).

CHECKLIST

The following checklist is one of species within the context of orders and families. We do not include subspecies because we believe that available data (especially a dearth of gene sequence data) are not sufficient to resolve a stable classification at the subspecies level in El Salvador. It is likely that subspecific differences,

as currently recognized, will be resolved by elevating one or more subspecific forms to the species level (Baker et al. 2003). In practice there is a present need among students, field workers, and others for a list of species that can be used as a point of departure for a variety of further studies.

Order Didelphimorphia

Family Didelphidae

1. *Chironectes minimus*..... Water Opossum
2. *Didelphis marsupialis*..... Common Opossum
3. *Didelphis virginiana*..... Virginia Opossum
4. *Marmosa mexicana*..... Mexican Mouse Opossum
5. *Philander opossum*..... Gray Four-eyed Opossum

Order Cingulata

Family Dasypodidae

6. *Dasypus novemcinctus* Nine-banded Armadillo

Order Pilosa

Family Myrmecophagidae

7. *Tamandua mexicana* Northern Tamandua

Order Primates

Family Atelidae

8. *Ateles geoffroyi* Geoffroy's Spider Monkey

Order Lagomorpha

Family Leporidae

9. *Sylvilagus floridanus* Eastern Cottontail

Order Soricomorpha

Family Soricidae

10. *Cryptotis goodwini* Goodwin's Broad-clawed Shrew
 11. *Cryptotis merriami* Merriam's Small-eared Shrew
 12. *Cryptotis orophila* Central American Least Shrew

Order Chiroptera

Family Emballonuridae

13. *Balantiopteryx plicata* Gray Sac-winged Bat
 14. *Peropteryx macrotis* Lesser Dog-like Bat
 15. *Rynchonycteris naso* Proboscis Bat
 16. *Saccopteryx bilineata* Greater Sac-winged Bat
 17. *Saccopteryx leptura* Lesser Sac-winged Bat

Family Phyllostomidae

18. *Desmodus rotundus* Common Vampire Bat
 19. *Diaemus youngi* White-winged Vampire Bat
 20. *Diphylla ecaudata* Hairy-legged Vampire Bat
 21. *Anoura geoffroyi* Geoffroy's Tailless Bat
 22. *Choeroniscus godmani* Godman's Long-tongued Bat
 23. *Glossophaga commissarisi* Commissaris's Long-tongued Bat
 24. *Glossophaga leachii* Gray's Long-tongued Bat
 25. *Glossophaga soricina* Palla's Long-tongued Bat
 26. *Leptonycteris yerbabuena* Lesser Long-nosed Bat

27. *Chrotopterus auritus* Woolly False Vampire Bat
 28. *Lonchorhina aurita* Common Sword-nosed Bat
 29. *Macrophyllum macrophyllum* Long-legged Bat
 30. *Micronycteris microtis* Common Big-eared Bat
 31. *Phyllostomus discolor* Pale Spear-nosed Bat
 32. *Trachops cirrhosus* Fringe-lipped Bat
 33. *Carollia perspicillata* Seba's Short-tailed Bat
 34. *Carollia sowelli* Sowell's Short-tailed Bat
 35. *Carollia subrufa* Gray Short-tailed Bat
 36. *Sturnira lilium* Little Yellow-shouldered Bat
 37. *Sturnira ludovici* Highland Yellow-shouldered Bat
 38. *Artibeus inopinatus* Honduran Fruit-eating Bat
 39. *Artibeus jamaicensis* Jamaican Fruit-eating Bat
 40. *Artibeus lituratus* Great Fruit-eating Bat
 41. *Centurio senex* Wrinkle-faced Bat
 42. *Chiroderma salvini* Salvin's Big-eyed Bat
 43. *Chiroderma villosum* Hairy Big-eyed Bat
 44. *Dermanura azteca* Aztec Fruit-eating Bat
 45. *Dermanura phaeotis* Pygmy Fruit-eating Bat
 46. *Dermanura tolteca* Toltec Fruit-eating Bat
 47. *Enchistenes harti* Velvety Fruit-eating Bat
 48. *Platyrrhinus helleri* Heller's Broad-nosed Bat
 49. *Uroderma bilobatum* Common Tent-making Bat
 50. *Uroderma magnirostrum* Brown Tent-making Bat

Family Mormoopidae

51. *Mormoops megalophylla* Peter's Ghost-faced Bat
 52. *Pteronotus davyi* Davy's Naked-backed Bat
 53. *Pteronotus gymnotus* Big Naked-backed Bat
 54. *Pteronotus parnellii* Common Mustached Bat
 55. *Pteronotus personatus* Wagner's Mustached Bat

Family Noctilionidae

56. *Noctilio albiventris* Lesser Bulldog Bat
 57. *Noctilio leporinus* Greater Bulldog Bat

Family Natalidae

58. *Natalus mexicanus* Mexican Greater Funnel-eared Bat

Family Molossidae

59. *Cynomops mexicanus* Mexican Dog-faced Bat
 60. *Eumops auripendulus* Black Bonneted Bat
 61. *Eumops underwoodi* Underwood's Bonneted Bat
 62. *Molossus coibensis* Coiban Mastiff Bat
 63. *Molossus molossus* Palla's Mastiff Bat
 64. *Molossus rufus* Black Mastiff Bat
 65. *Molossus sinaloae* Sinaloae Mastiff Bat
 66. *Nyctinomops laticaudatus* Broad-eared Free-tailed Bat

Family Vespertilionidae

67. *Eptesicus furinalis* Argentinian Brown Bat
 68. *Eptesicius fuscus* Big Brown Bat
 69. *Lasiurus blossevillii* Red Bat
 70. *Lasiurus ega* Southern Yellow Bat
 71. *Lasiurus intermedius* Northern Yellow Bat
 72. *Rhogeessa tumida* Black-winged Little Yellow Bat
 73. *Bauerus dubiaquercus* Van Gelder's Bat
 74. *Myotis elegans* Elegant Myotis
 75. *Myotis keaysi* Hairy-legged Myotis
 76. *Myotis nigricans* Black Myotis
 77. *Myotis velifer* Cave Myotis

Order Carnivora

Family Felidae

78. *Leopardus pardalis* Ocelot
 79. *Leopardus wiedii* Margay
 80. *Puma concolor* Cougar
 81. *Puma yagouaroundi* Jaguarundi
 82. *Panthera onca* Jaguar

Family Canidae

83. *Canis latrans* Coyote
 84. *Urocyon cinereoargenteus* Gray Fox

- Family Mustelidae
85. *Lontra longicaudis* Neotropical Otter
86. *Eira barbara* Tayra
87. *Mustela frenata* Long-tailed Weasel
- Family Mephitidae
88. *Conepatus leuconotus* American Hog-nosed Skunk
89. *Mephitis macroura* Hooded Skunk
90. *Spilogale angustifrons* Southern Spotted Skunk
- Family Procyonidae
91. *Bassariscus sumichrasti* Cacomistle
92. *Nasua narica* White-nosed Coati
93. *Potos flavus* Kinkajou
94. *Procyon lotor* Raccoon
- Order Perissodactyla
- Family Tapiridae
95. *Tapirus bairdii* Baird's Tapir
- Order Artiodactyla
- Family Tayassuidae
96. *Pecari tajacu* Collared Peccary
- Family Cervidae
97. *Mazama temama* Central America Red Brocket
98. *Odocoileus virginianus* White-tailed Deer
- Order Rodentia
- Family Sciuridae
99. *Sciurus deppei* Deppe's Squirrel
100. *Sciurus variegatoides* Variegated Squirrel
- Family Heteromyidae
101. *Heteromys desmarestianus* Desmarest's Spiny Pocket Mouse
102. *Liomys salvini* Salvin's Spiny Pocket Mouse
- Family Geomyidae
103. *Orthogeomys grandis* Giant Pocket Gopher
- Family Cricetidae
104. *Baiomys musculus* Southern Pygmy Mouse
105. *Habromys lophurus* Crested-tailed Deermouse

106. *Neotoma isthmica/ferruginea*..... Mexican Woodrat
 107. *Peromyscus aztecus*..... Aztec Deermouse
 108. *Peromyscus beatae*..... Orizaba Deermouse
 109. *Peromyscus mexicanus* Mexican Deermouse
 110. *Peromyscus stirtoni*..... Stirton’s Deermouse
 111. *Reithrodontomys fulvescens* Fulvous Harvest Mouse
 112. *Reithrodontomys gracilis* Slender Harvest Mouse
 113. *Reithrodontomys mexicanus*..... Mexican Harvest Mouse
 114. *Reithrodontomys sumichrasti*..... Sumichrast’s Harvest Mouse
 115. *Scotinomys teguina* Short-tailed Singing Mouse
 116. *Oligoryzomys fulvescens*..... Fulvous Colilargo
 117. *Oryzomys alfaroi*..... Alfaro’s Oryzomys
 118. *Oryzomys mexicanus*..... Mexican Oryzomys
 119. *Oryzomys rostratus* Long-nosed Oryzomys
 120. *Oryzomys saturatior*..... Cloud Forest Oryzomys
 121. *Rheomys thomasi* Thomas’ Ichthyomyine
 122. *Sigmodon hirsutus*..... Southern Cotton Rat
 123. *Nyctomys sumichrasti* Sumichrast’s Vesper Rat
 124. *Otodylomys phyllotis*..... Big-eared Climbing Rat
 125. *Tylomys nudicaudus* Peters’s Climbing Rat
- Family Erethizontidae
 126. *Spiggurus mexicanus* Mexican Hairy Dwarf Porcupine
- Family Dasyproctidae
 127. *Dasyprocta punctata*..... Central America Agouti
- Family Cuniculidae
 128. *Cuniculus paca*..... Lowland Paca

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*Addresses of authors:***JAMES G. OWEN**

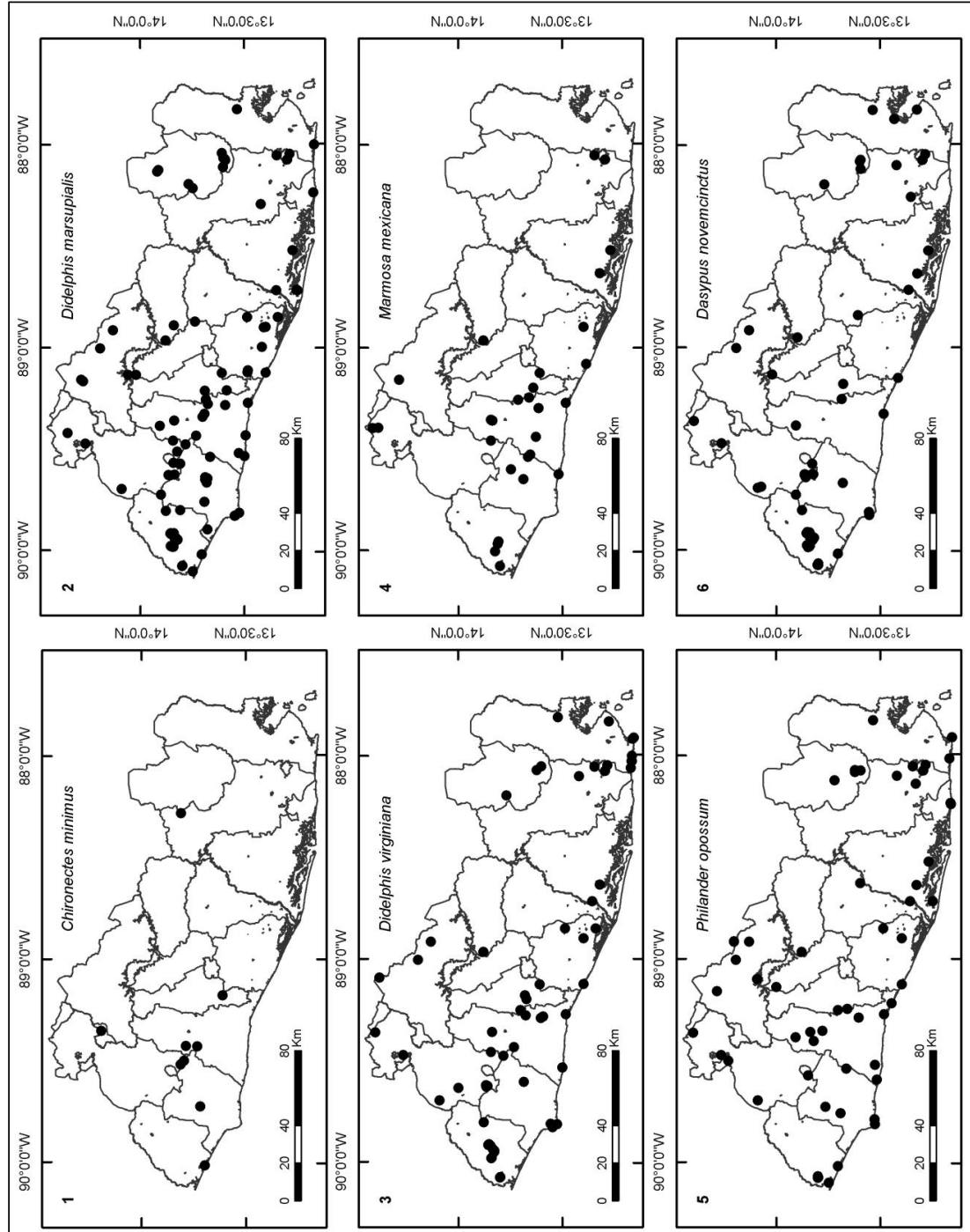
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LUIS E. GIRÓN

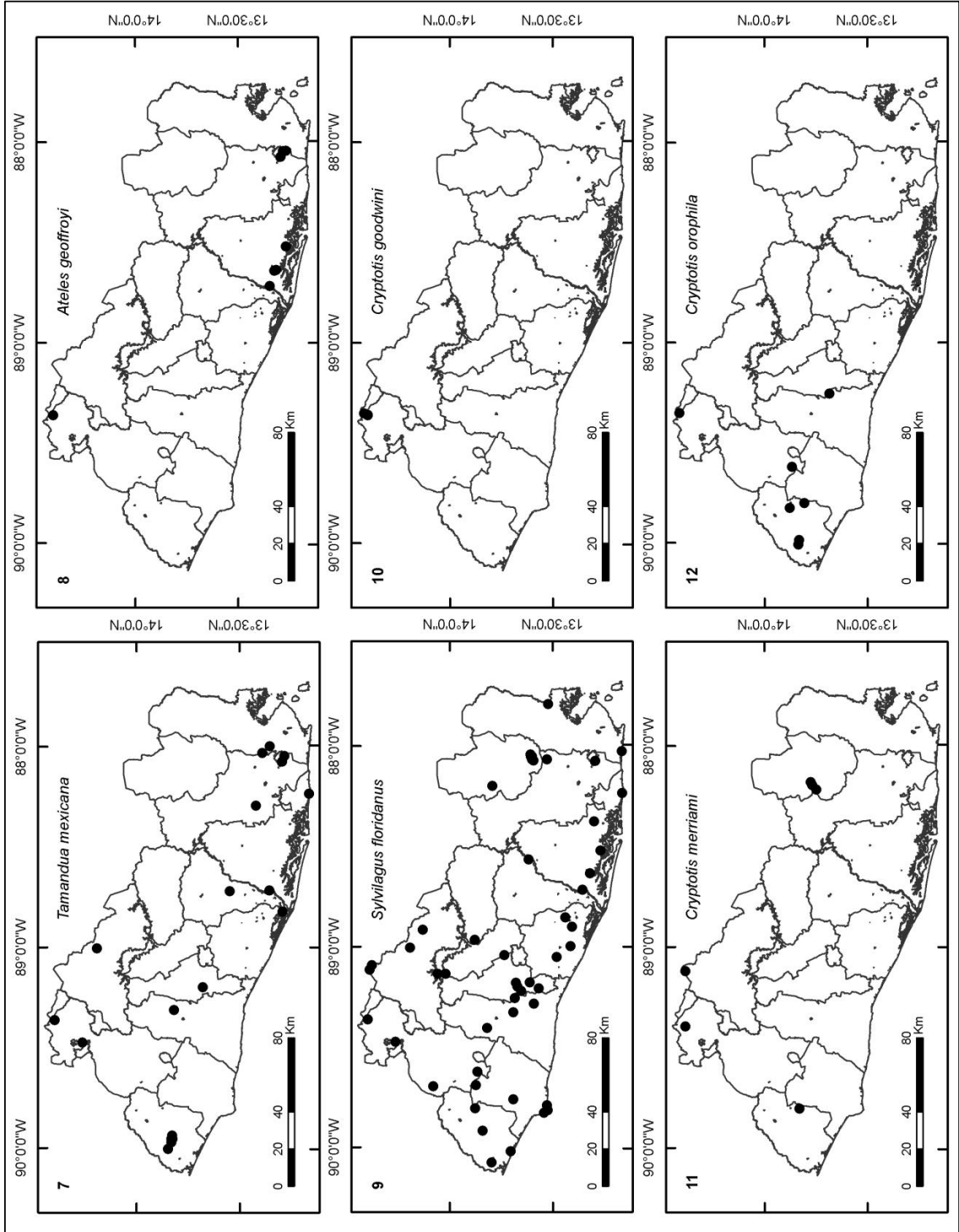
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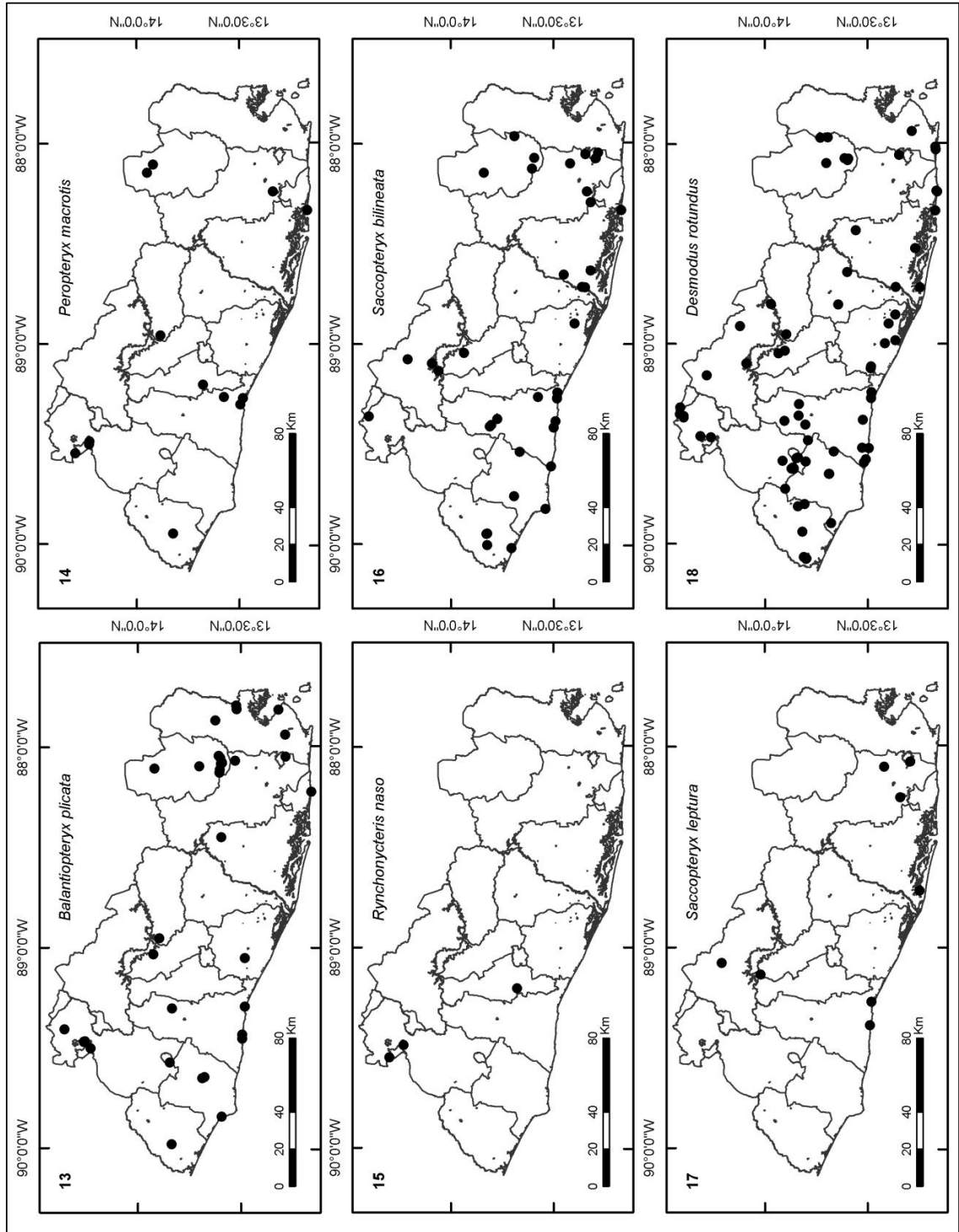
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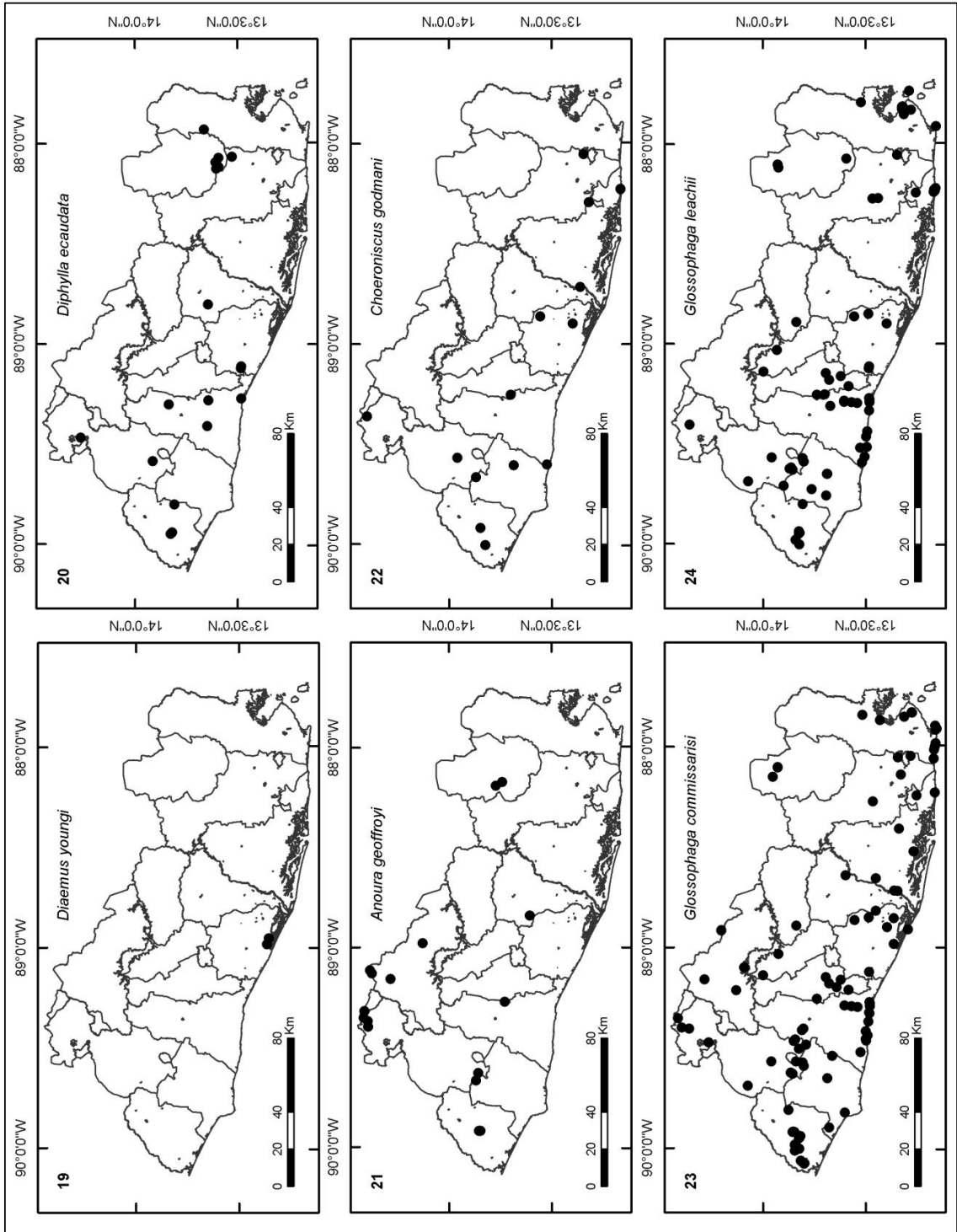
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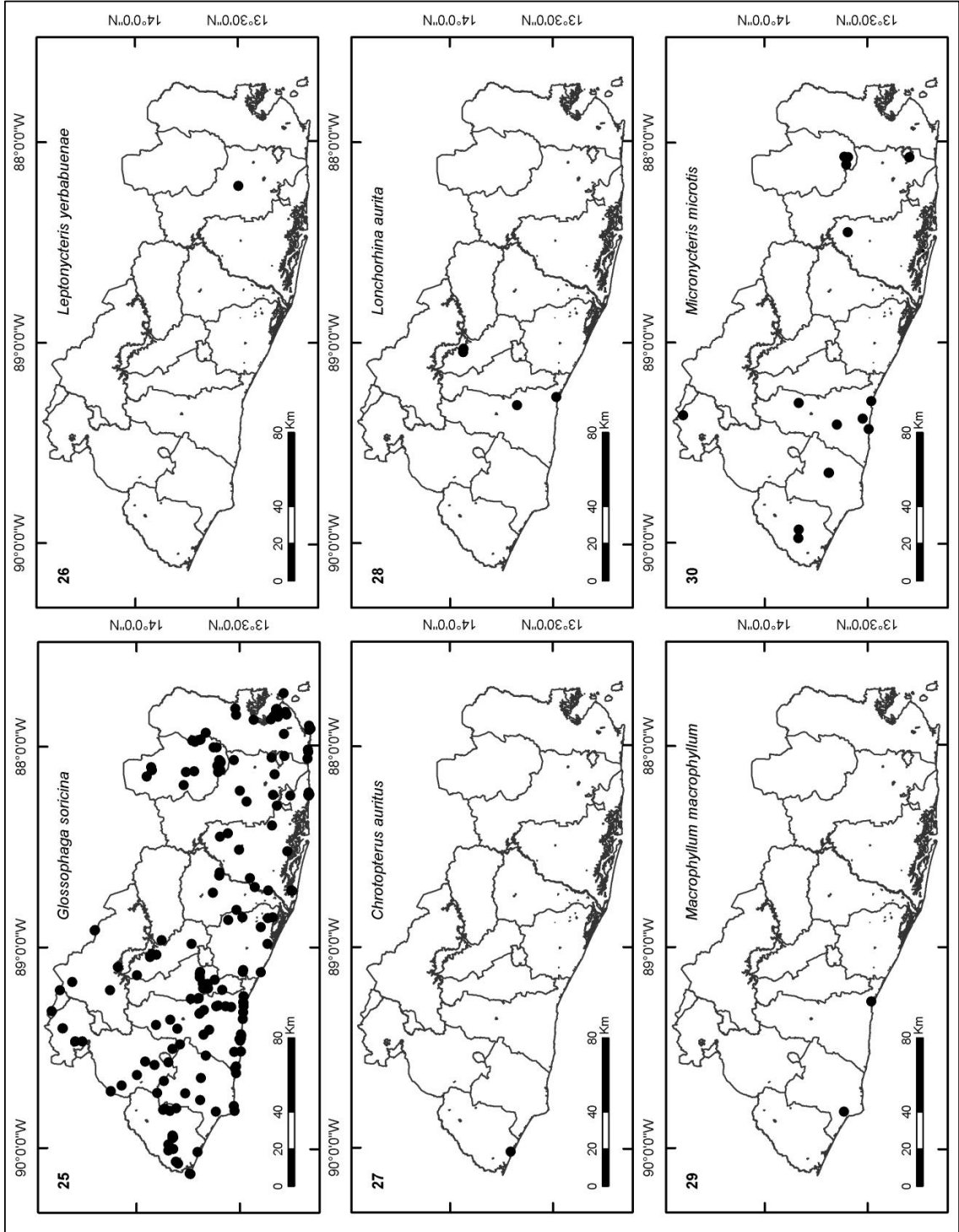
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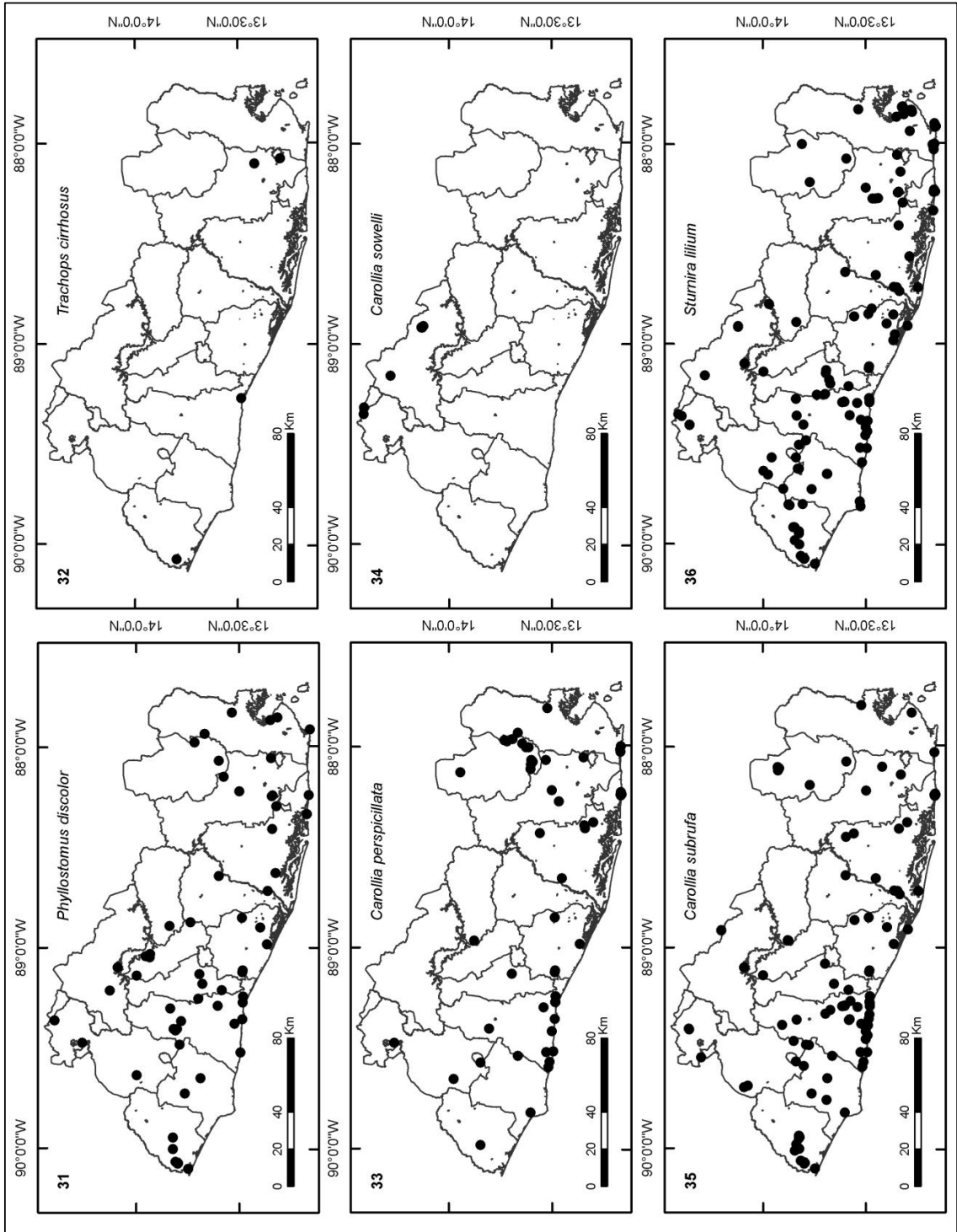
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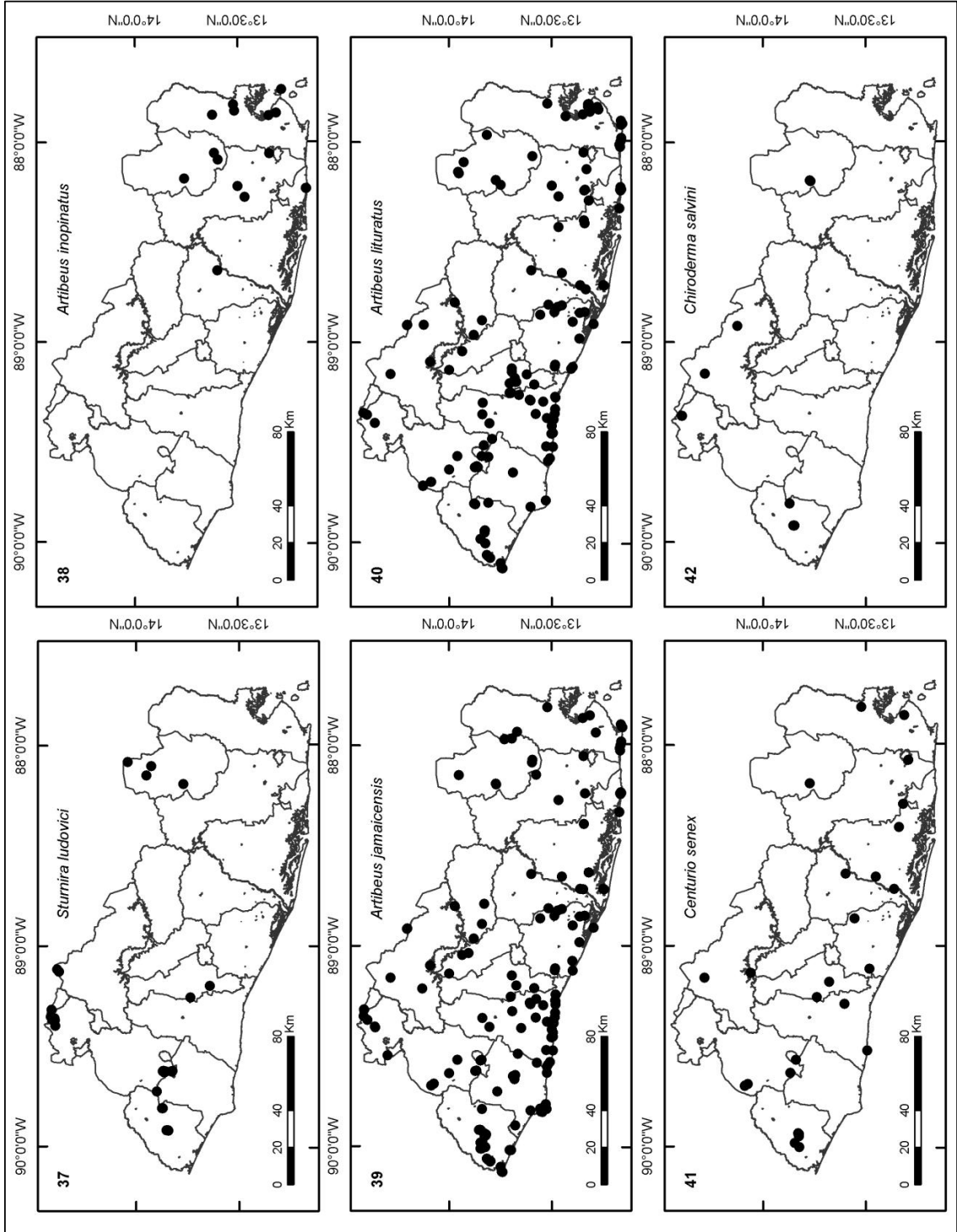
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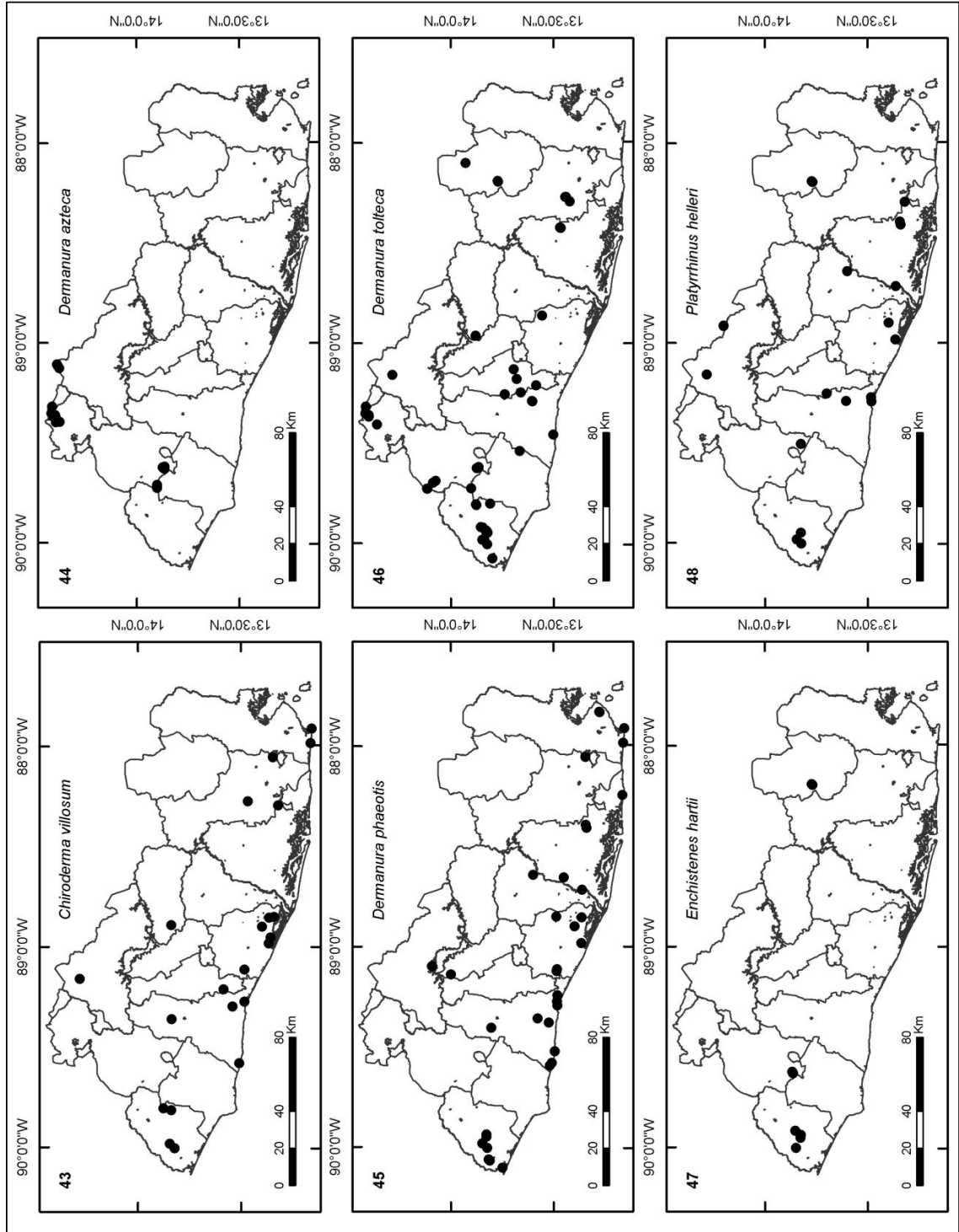
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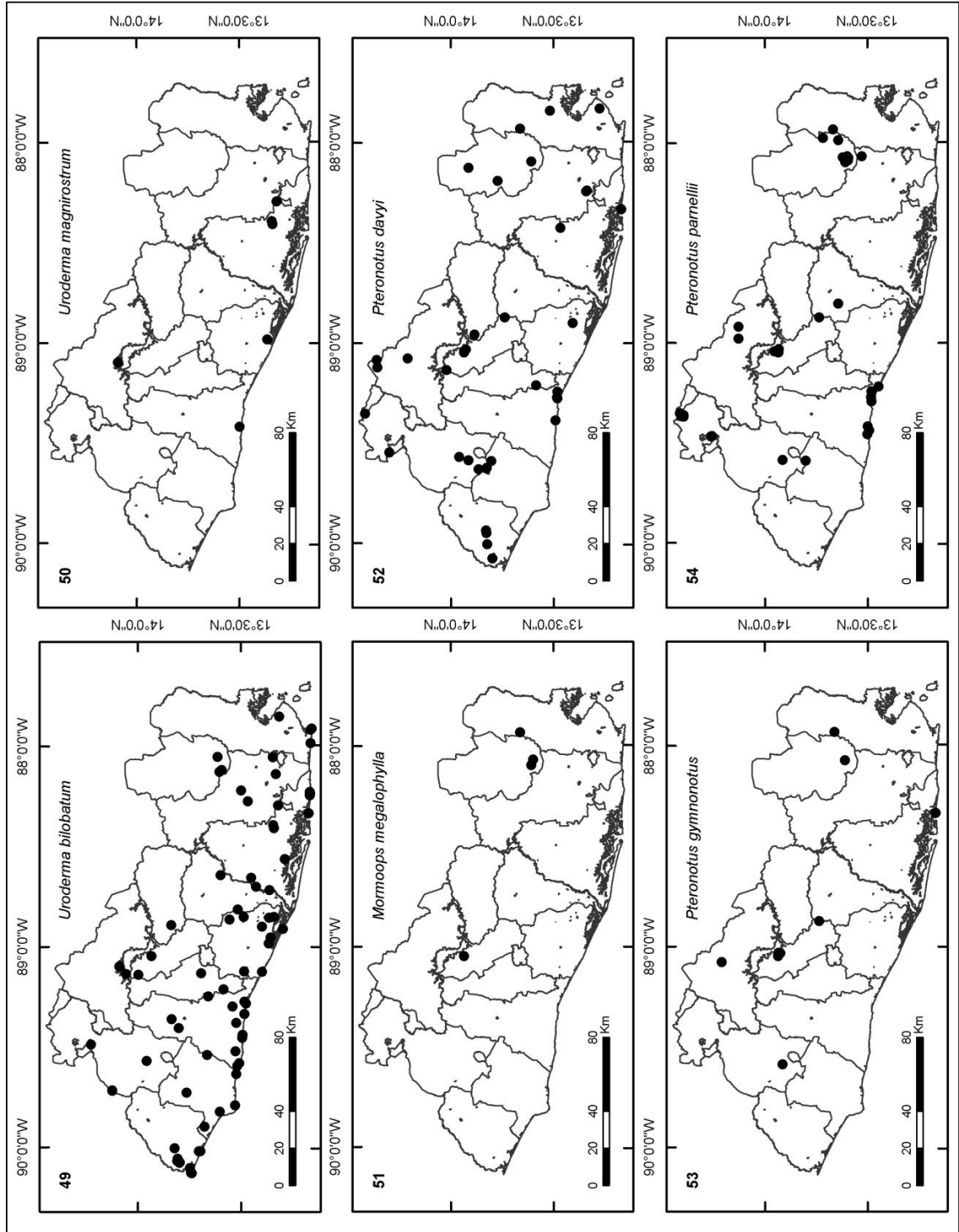
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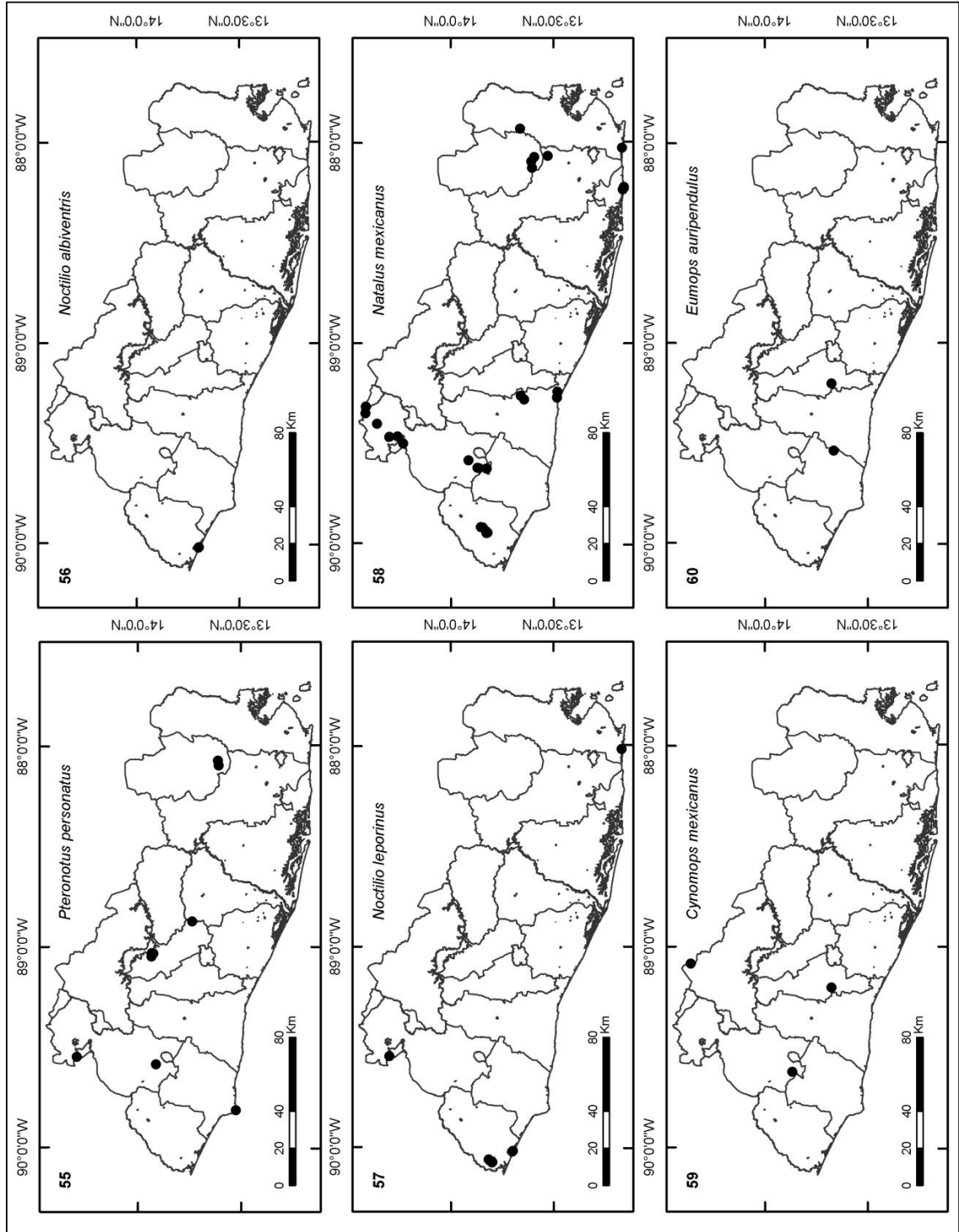
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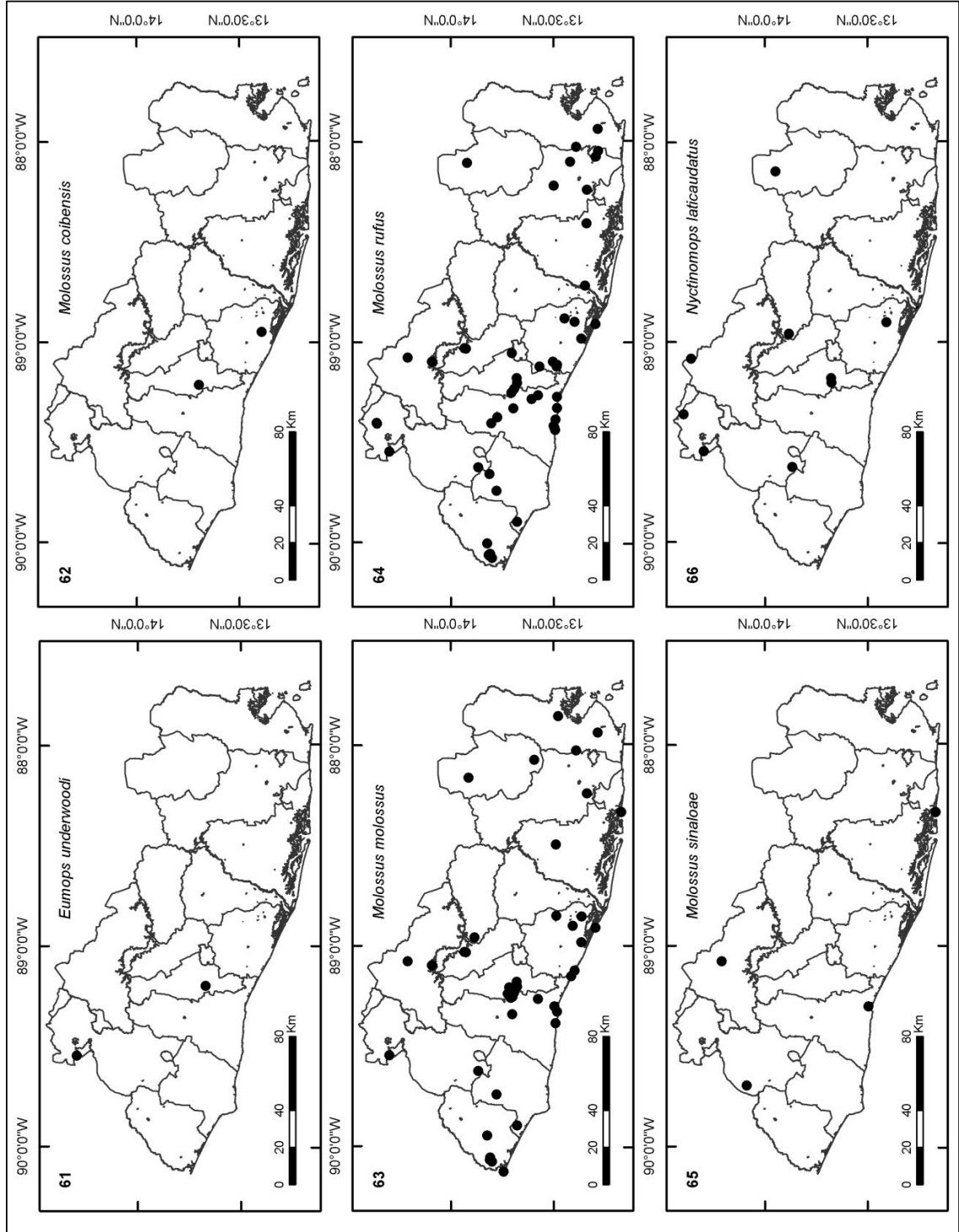
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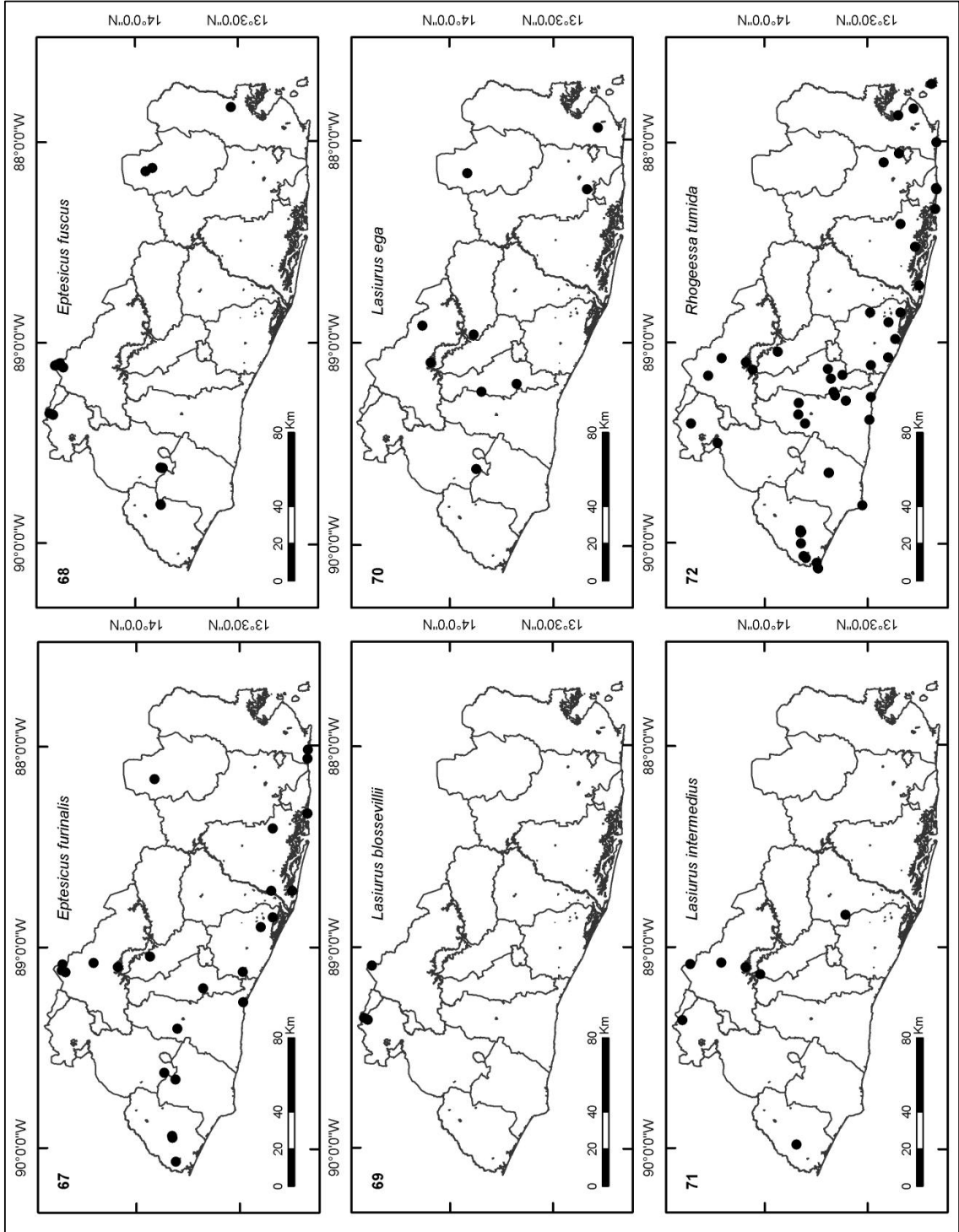
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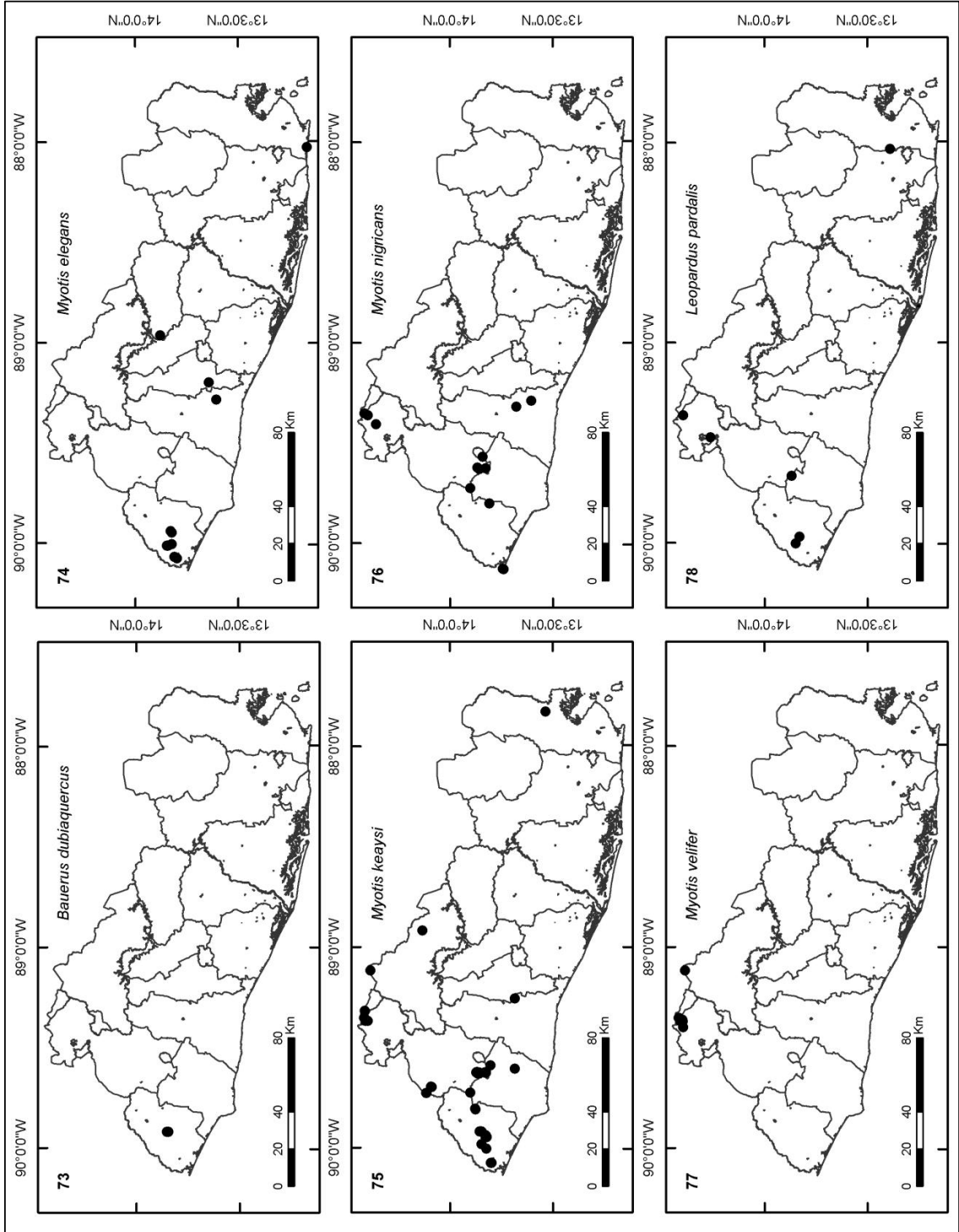
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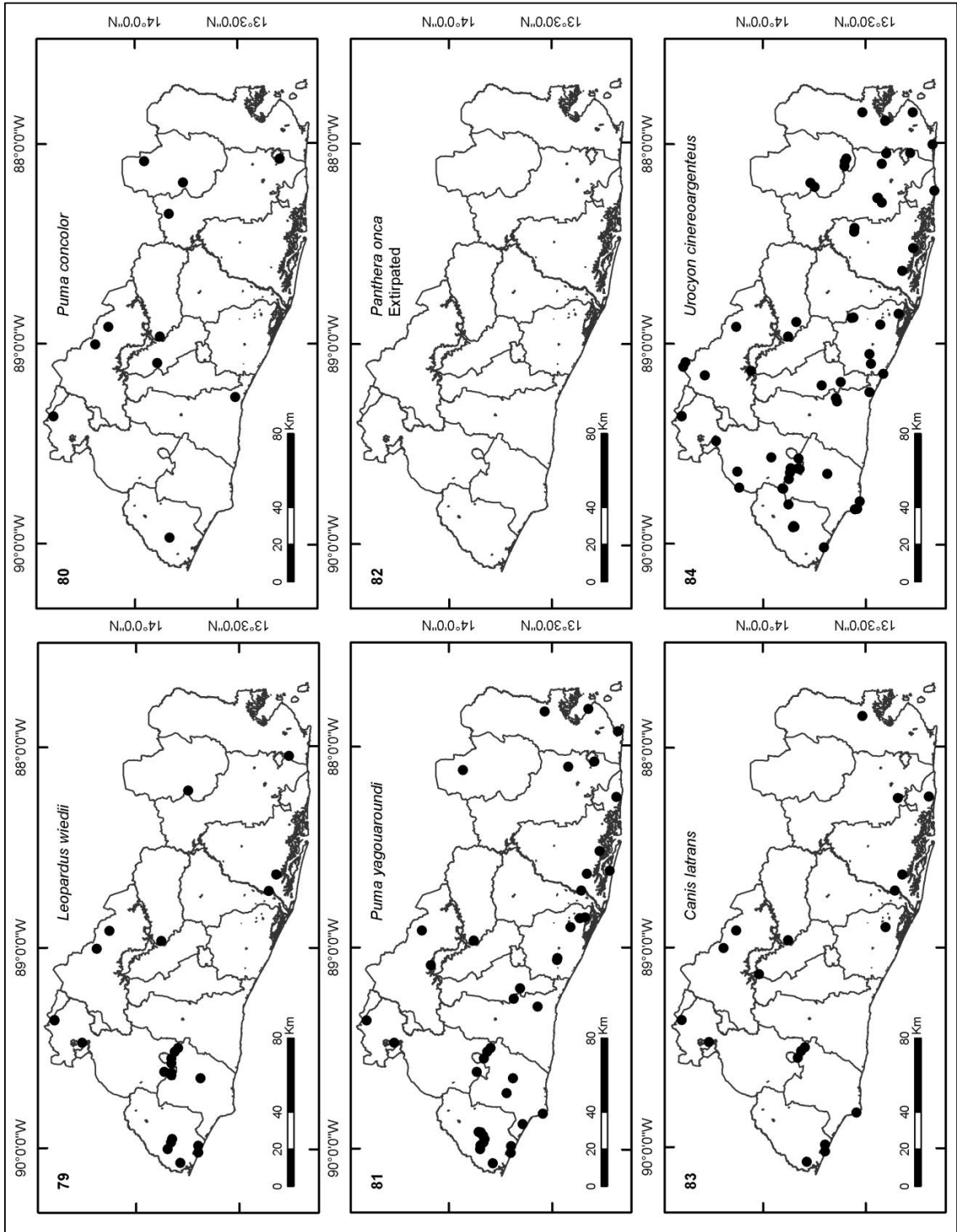
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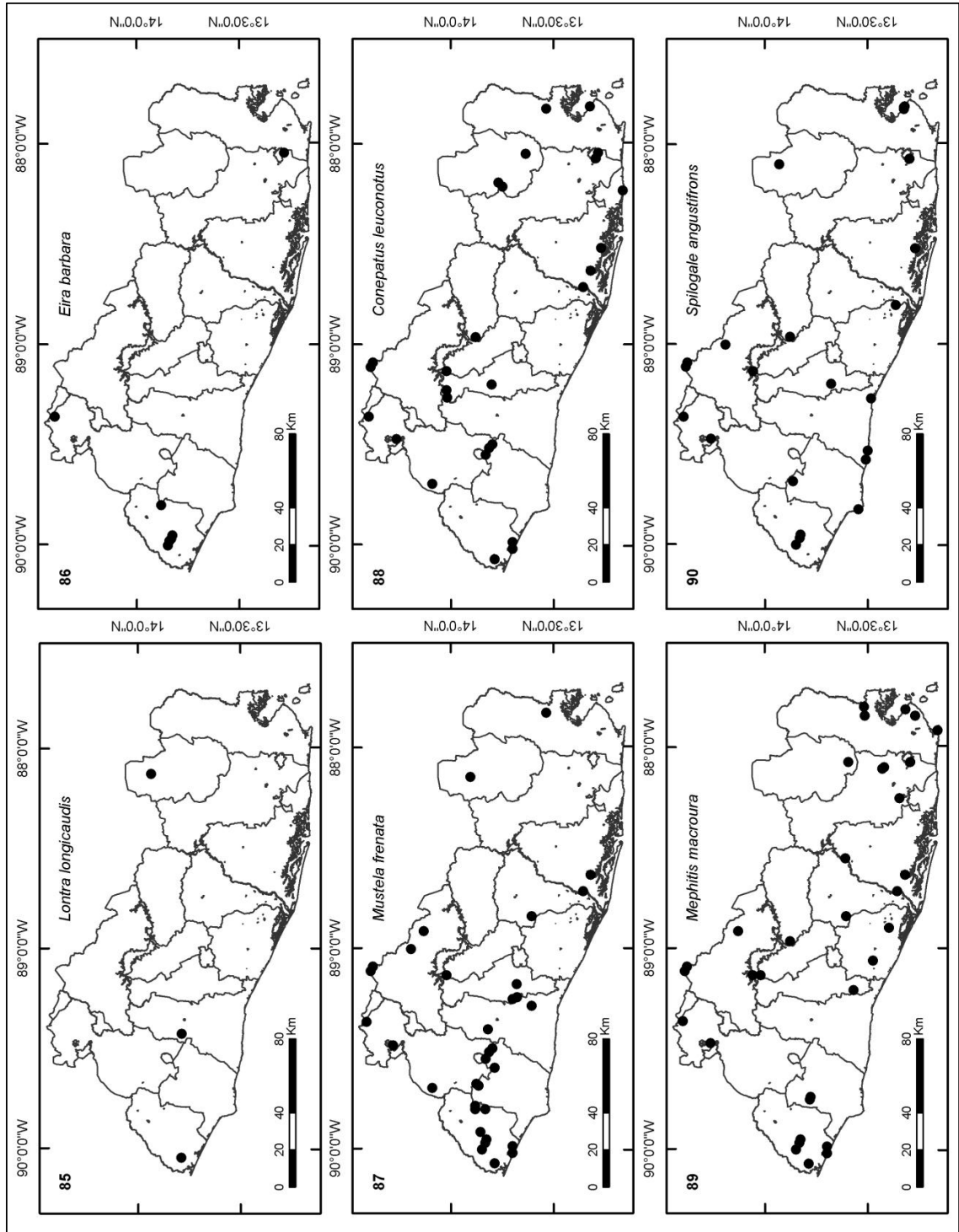
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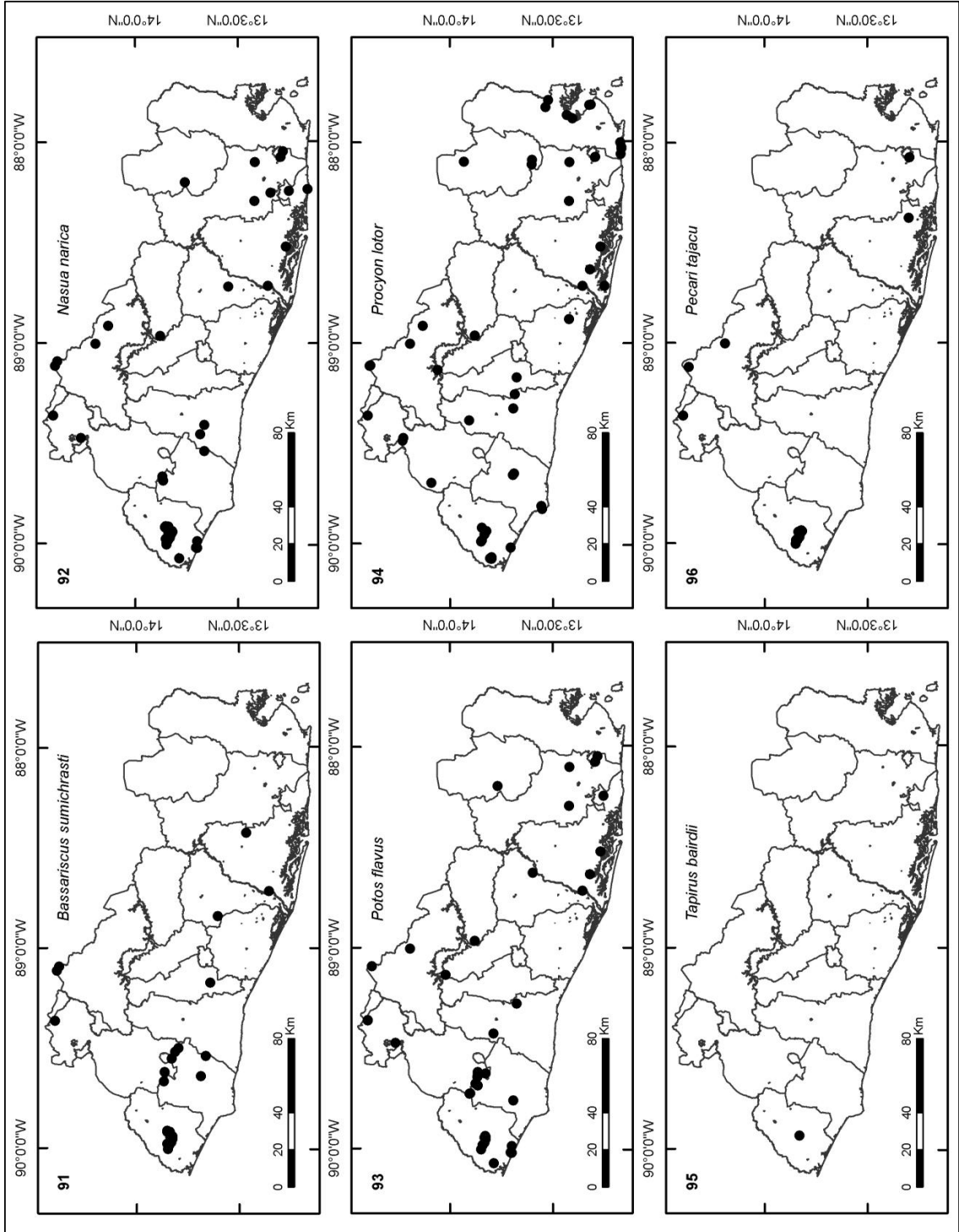
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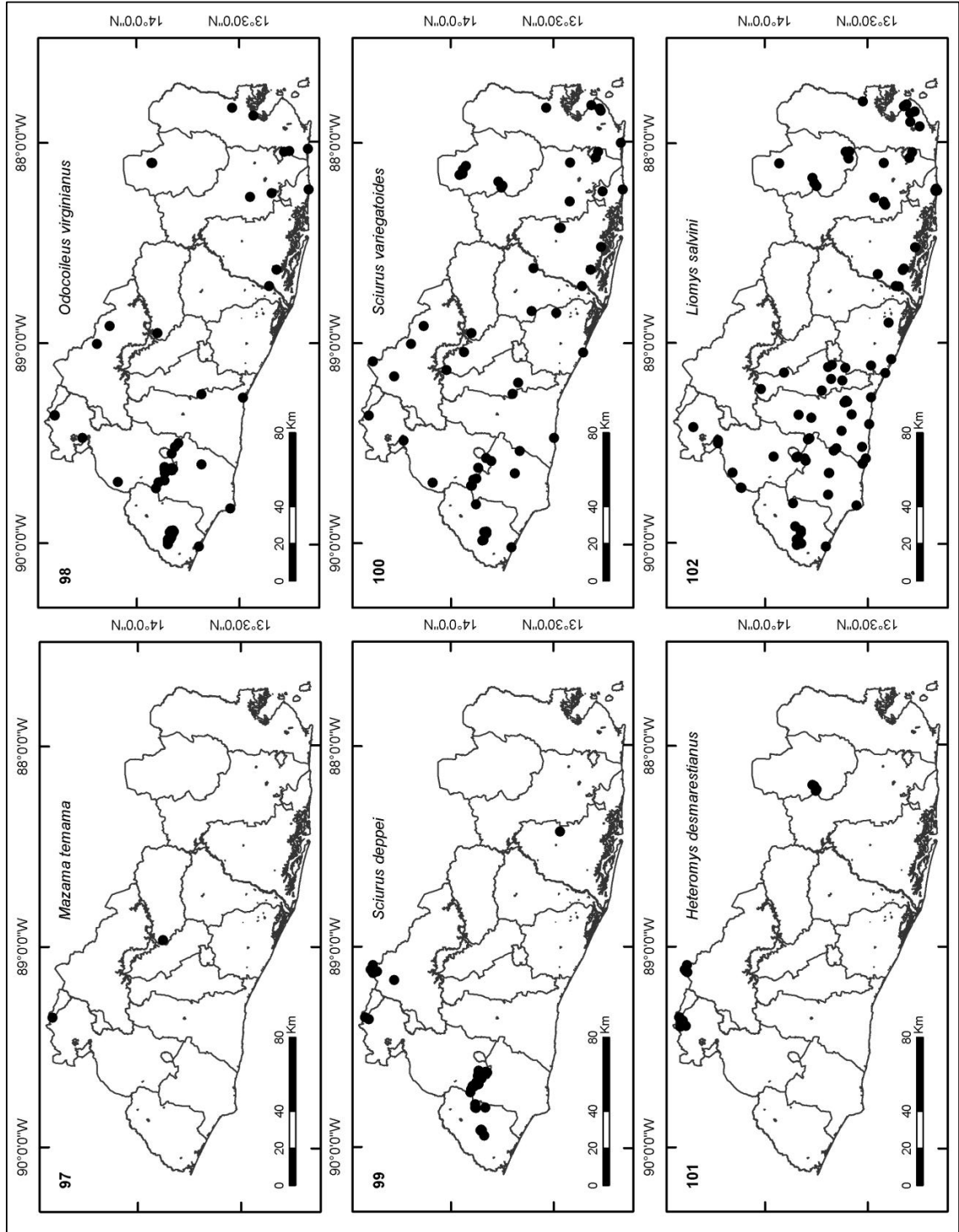
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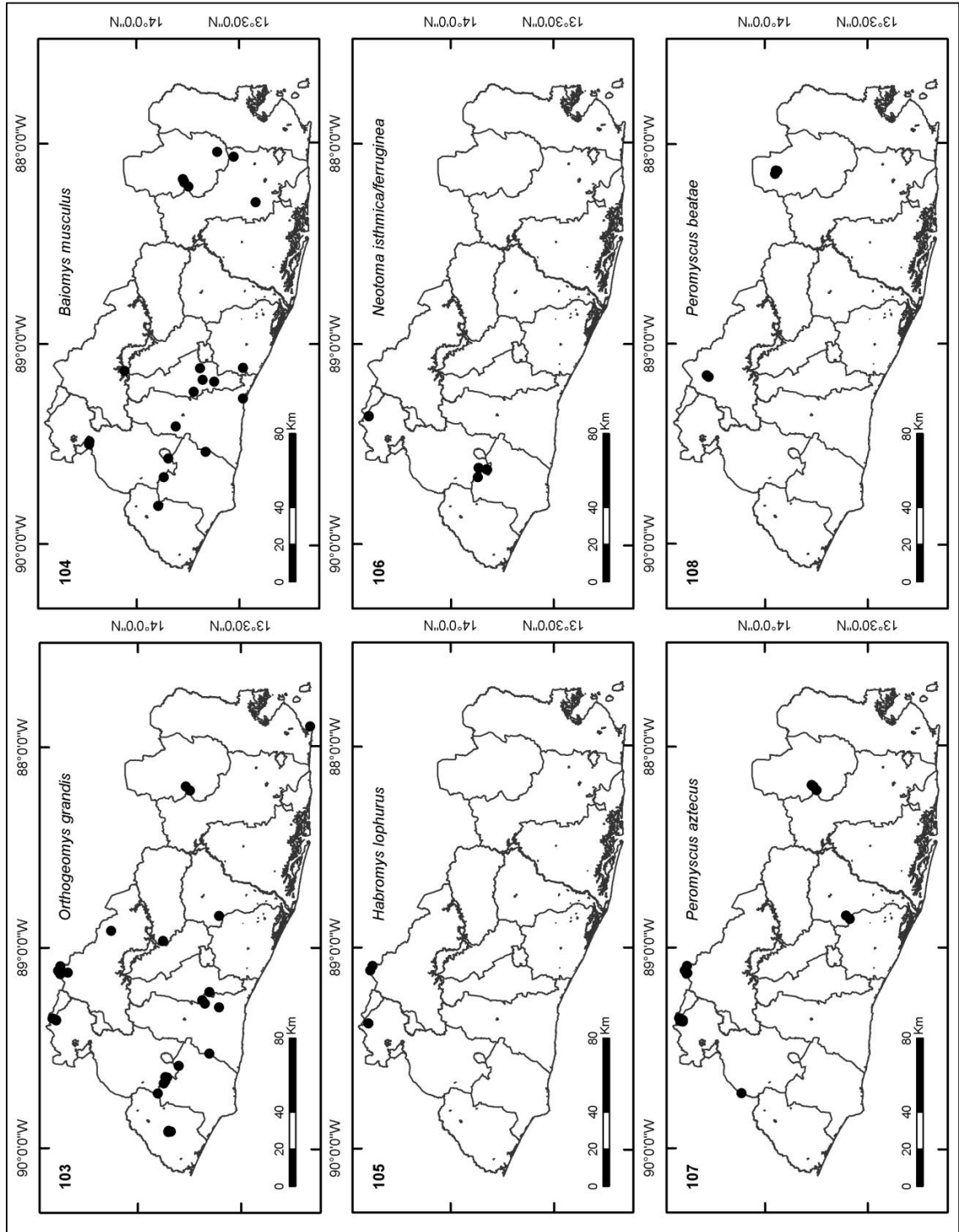
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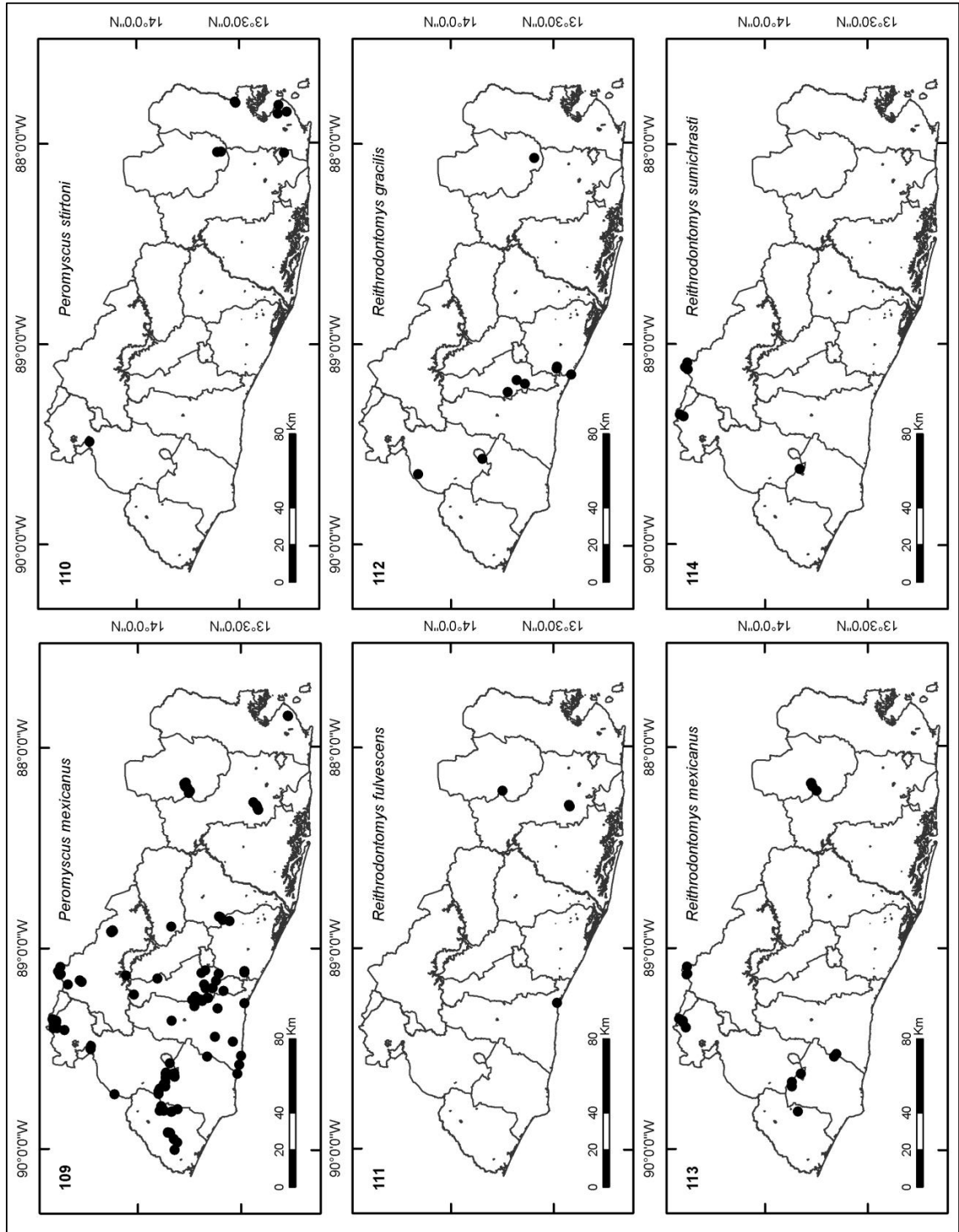
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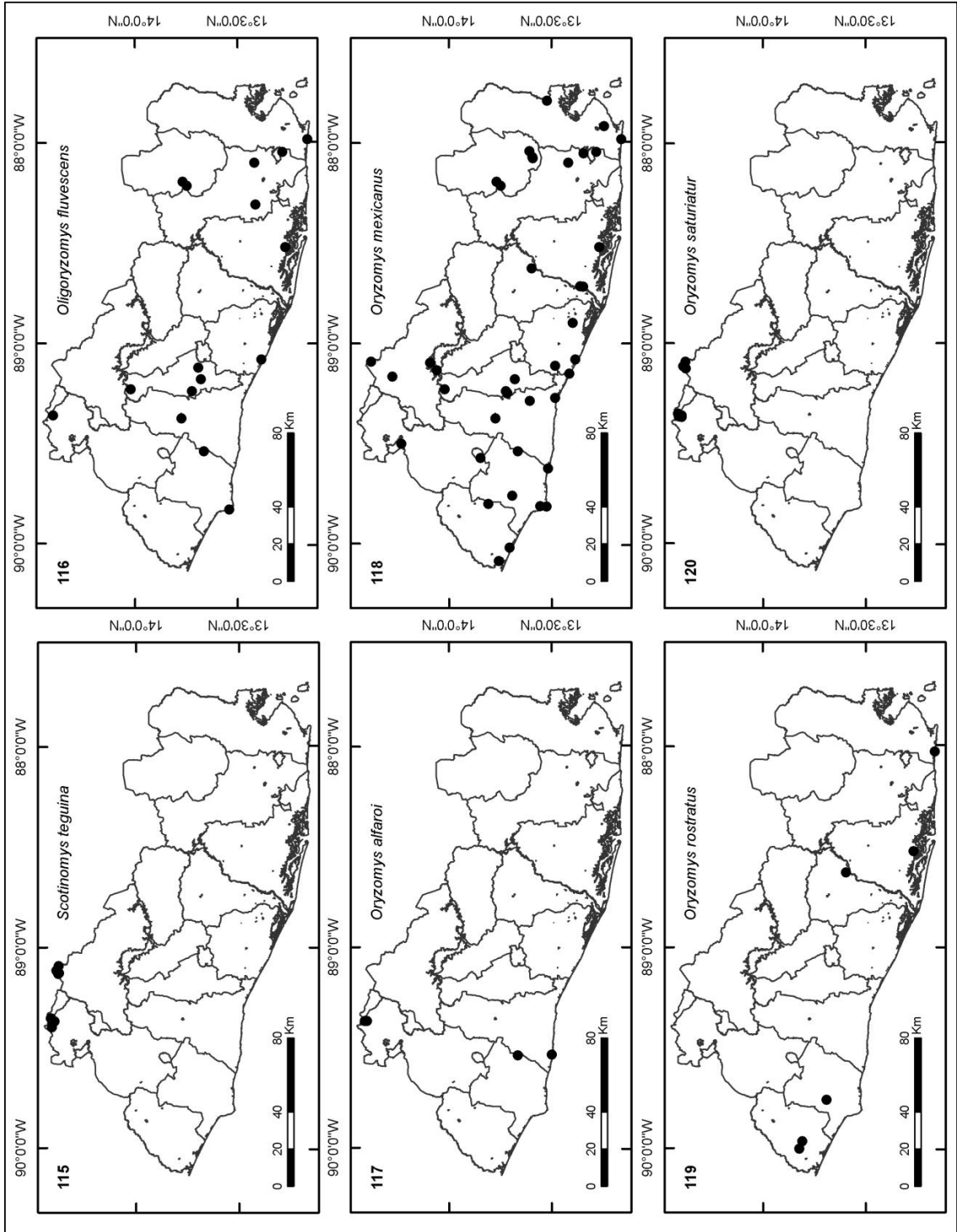
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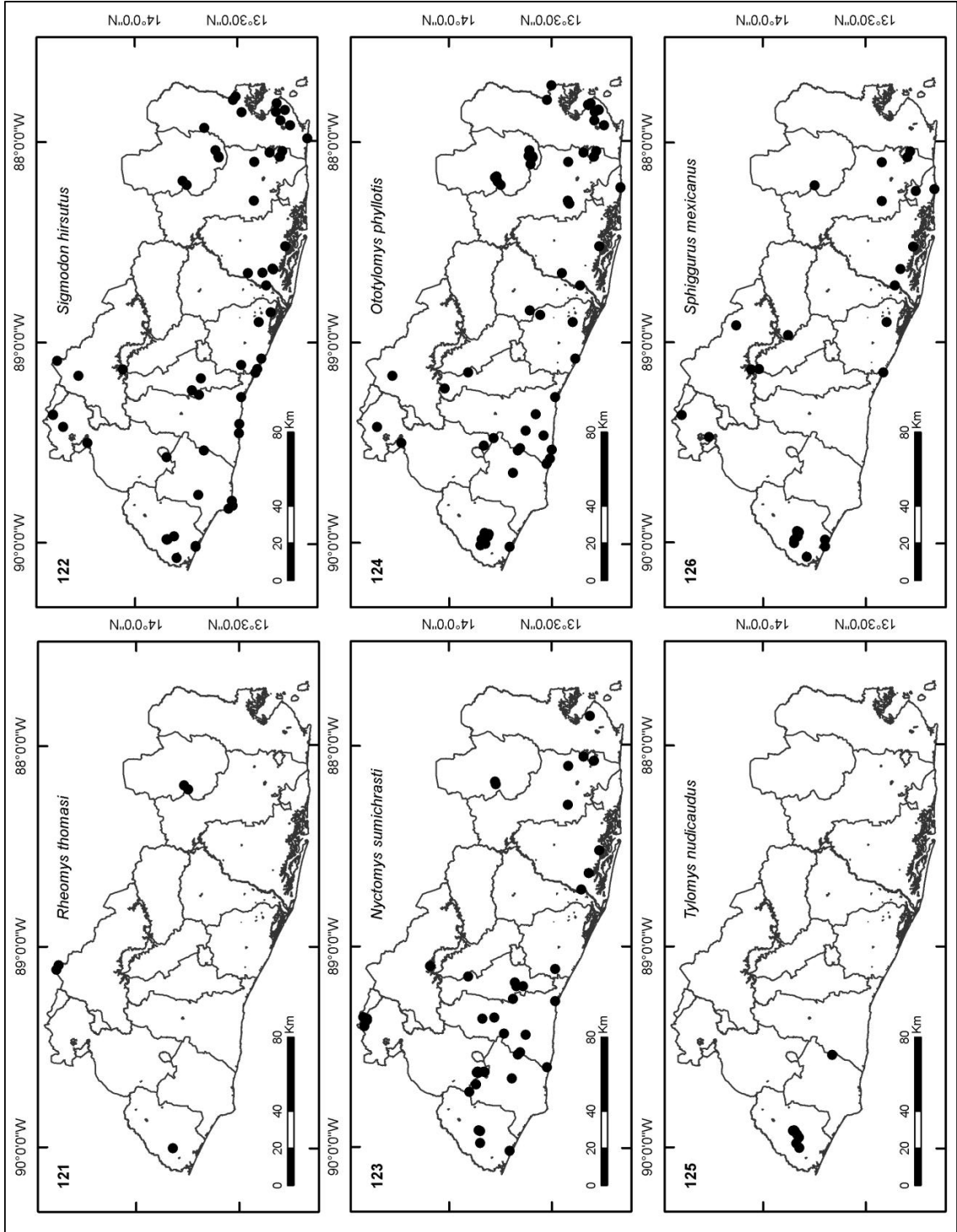
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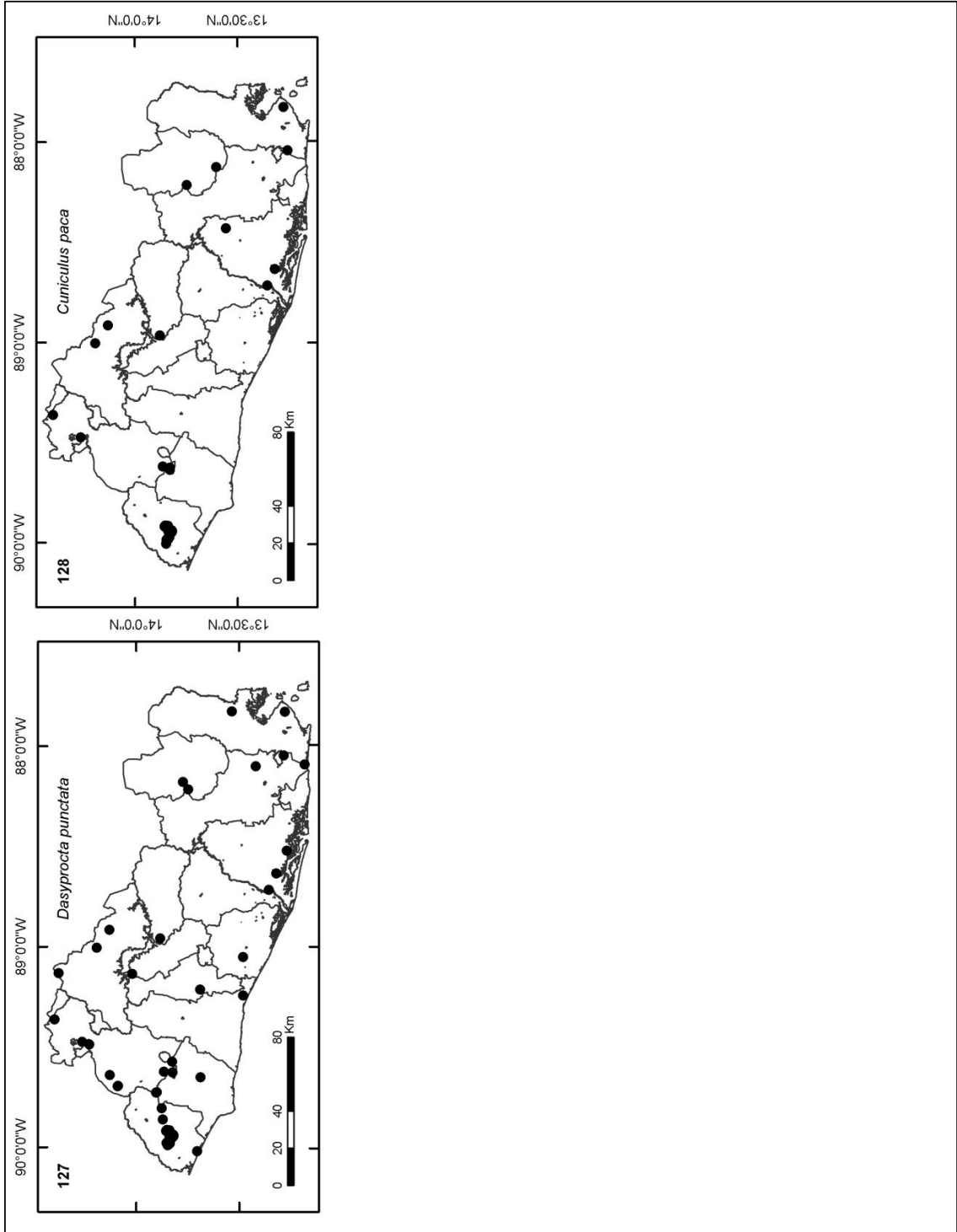
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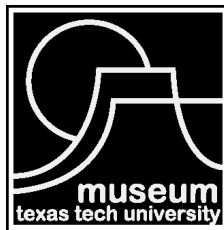


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